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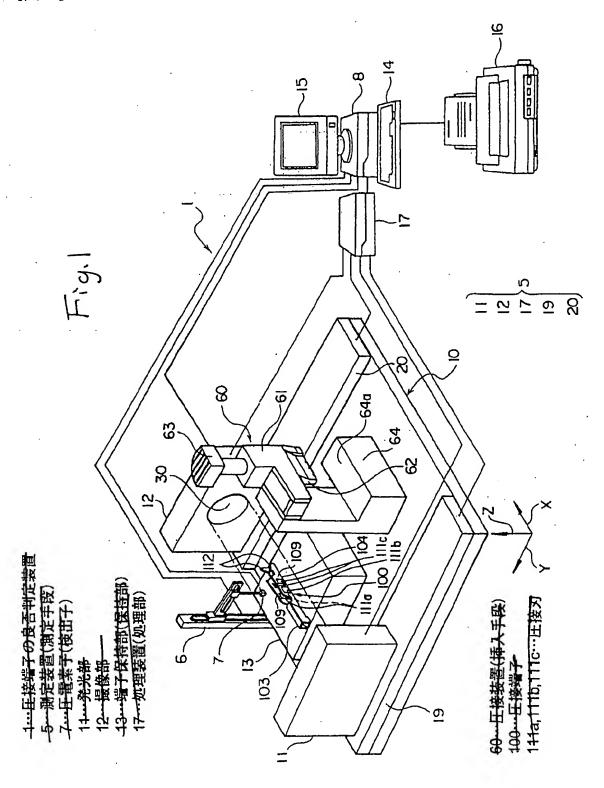
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12. 17

國面

<del>364979 (14. 1</del>2

図ゴ

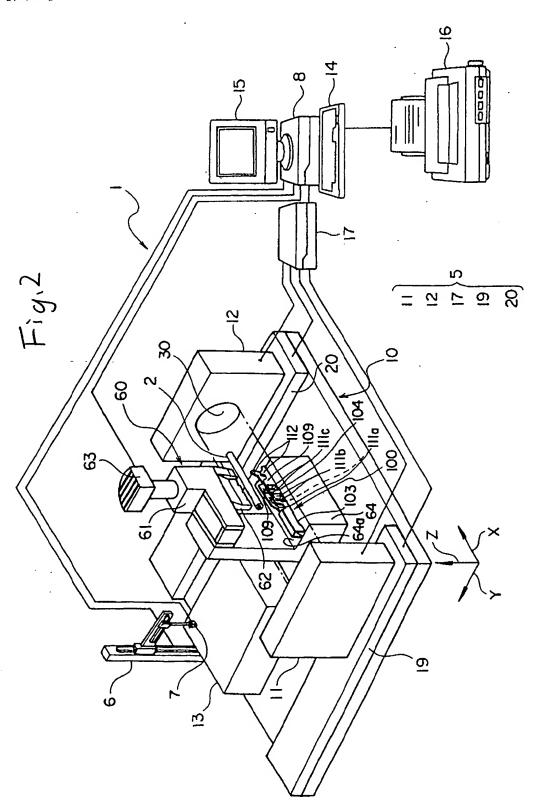


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<del>77-14. 12. 17</del>

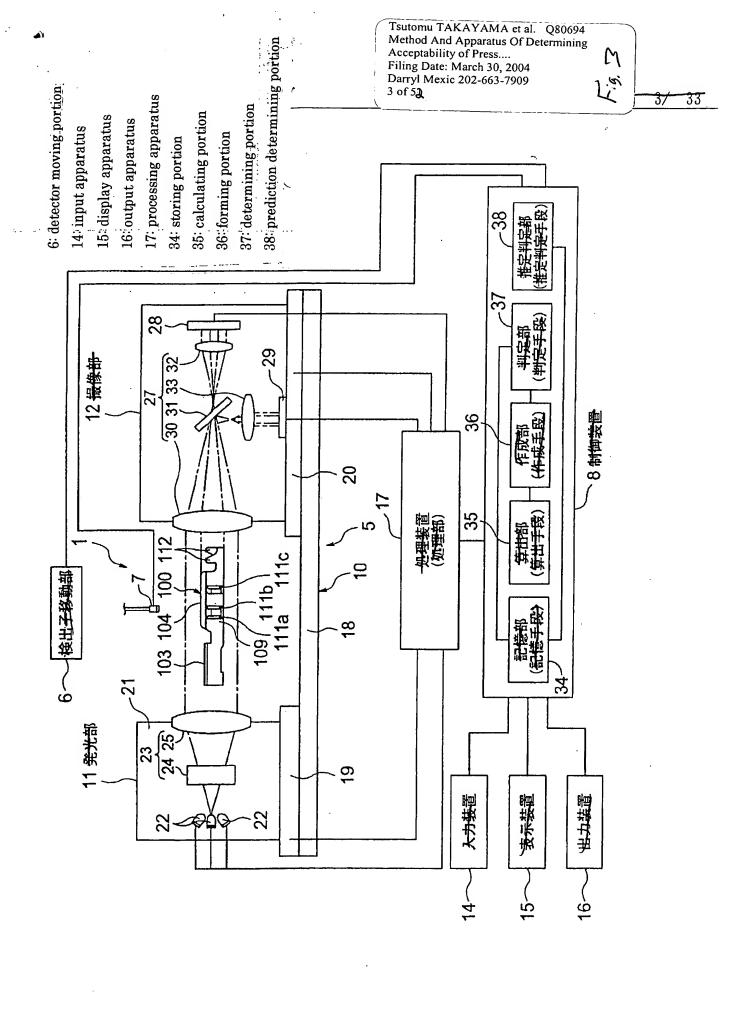
【图2】

<del>[書類名] 図</del>面 [特許] 2002-364979 (14



2/

33



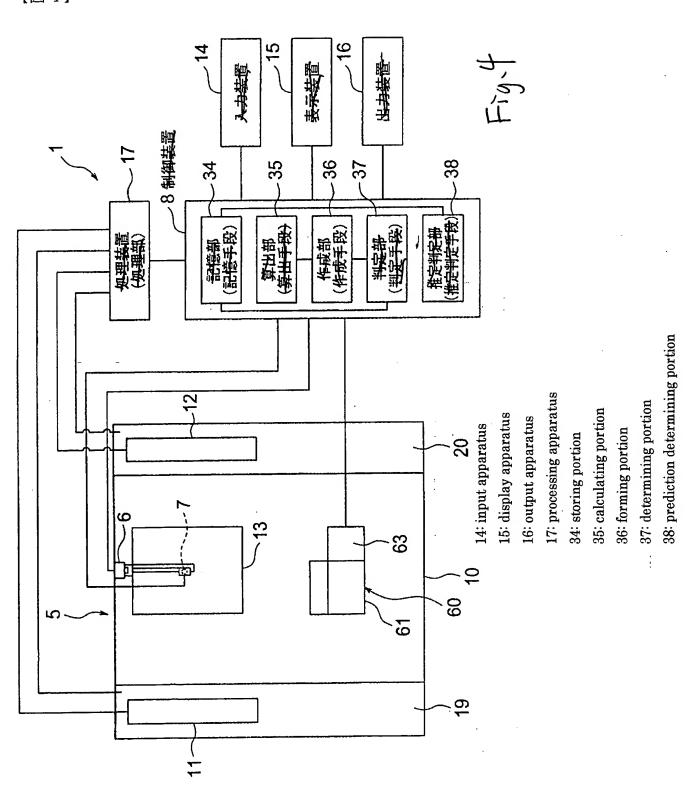
<del>4. 12. 1</del>7

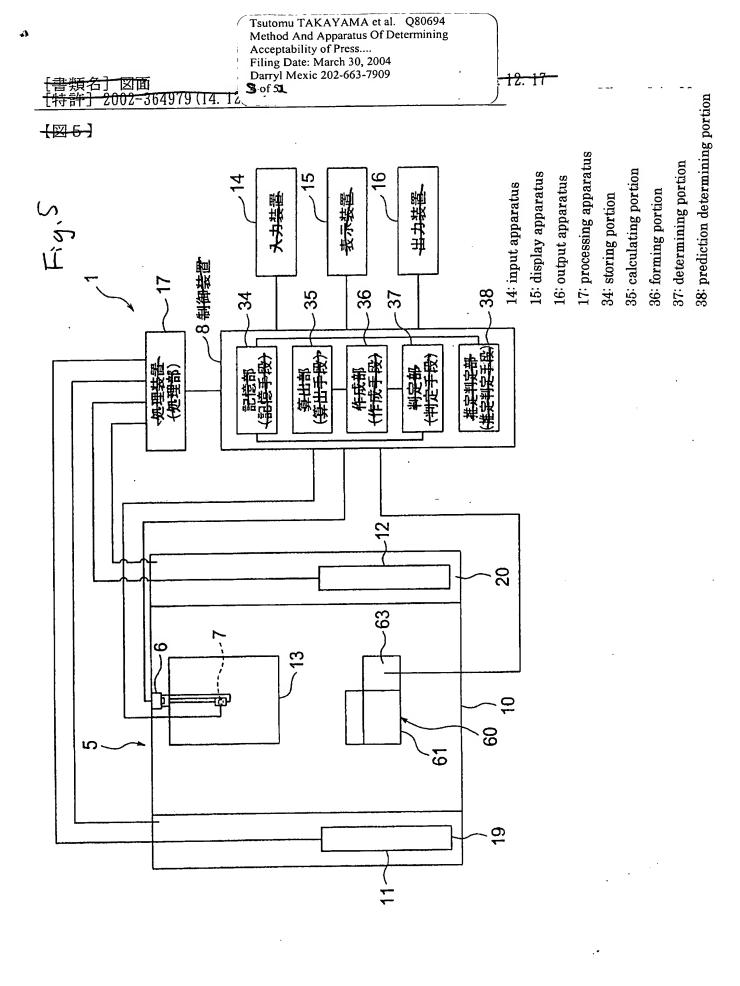
33 47

{図4}

<del>] 図面</del> <del>2002-364979 (14.</del>

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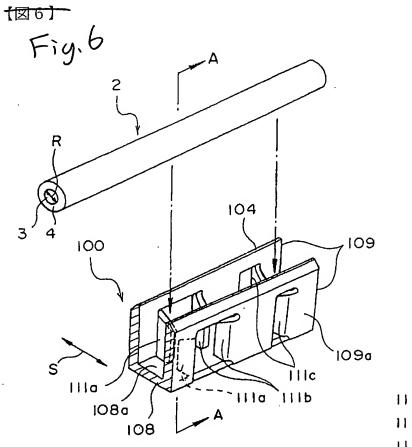
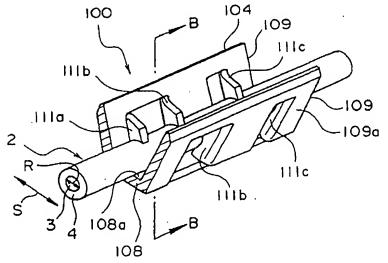


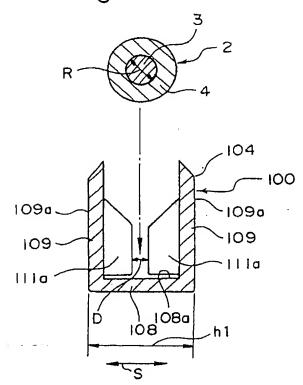
Fig. 7



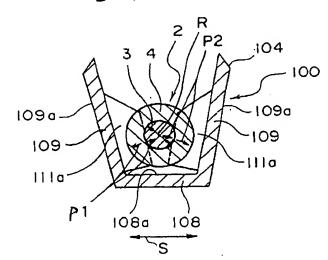
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<del>14. 12. 1</del>7

## Fig.8



### Fig.9

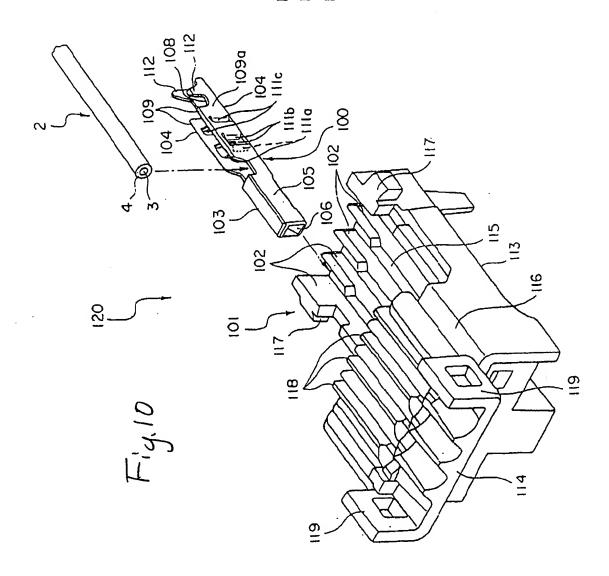


12.17

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【図10】





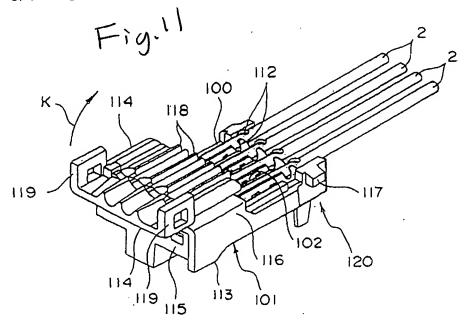
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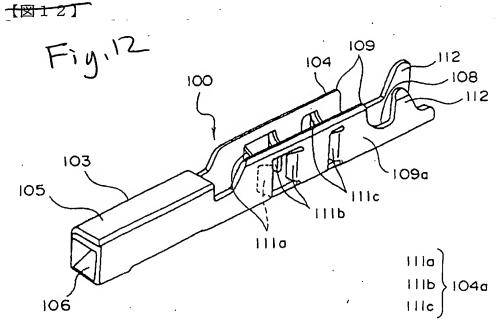
2. 17

頁:

### 364979 (14, 12

图11)





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4

中: 19/33

曾獲名上図面 特許]2002-364979 (14-12-17) S1: coincide optical axis of light emitting portion with optical axis of image pickup portion and acquire a distance between

start

outer faces of pair of side walls before press contacting S2: bring piezoelectric element close to press contact terminal and pickup image thereof

S3: binarizing

S4: extract edge

S5: acquire distance between outer faces of side walls, measure displacement of press contact blades and calculate contact load S6: is piezoelectric element inserted at predetermined position? S7: acquire (form) characteristic data by obtaining relationship between displacement of press contact blades and contact load S8: does difference between reference data and characteristic data exceed predetermined value?

S10. defect

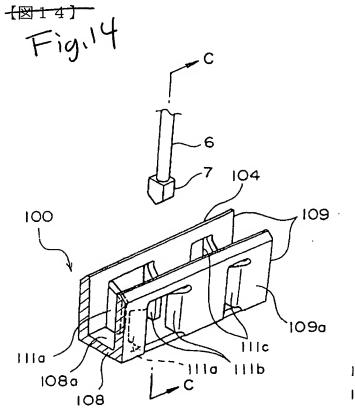
.S10 不良品と判定 ~S3 **SS S4** 82 27 (51 z 発光節の光軸と機像部の 光軸を合わせて、圧接前 の一対の側壁の外面間の 距離を求める 98 ŝ 89 側壁の外面間の距離を求め、 圧接刃の変位を測定すると ともに、接触荷量を算出する 圧接刃の変位と接触荷重 の関係を求めて特性デー タを取得(作成)する 基準データ と特性データの著が所定 の値以上か? 圧電素子を圧接端子に近 づけ、これらを撮像する 所定の 位置まで圧電素子を 挿入したか エッジを抽出する 良品と判定 2値化する スタート で工学

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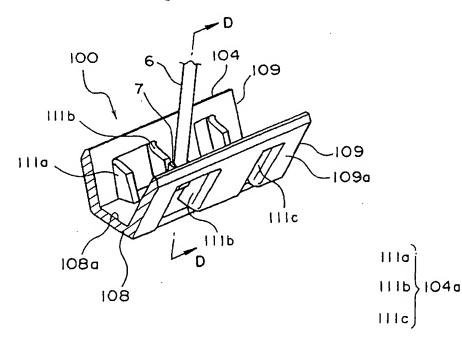
2002-364979 (1 11 of 52

F14. 12. 17

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-1815T Fig. 15

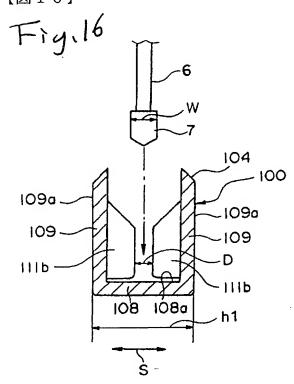


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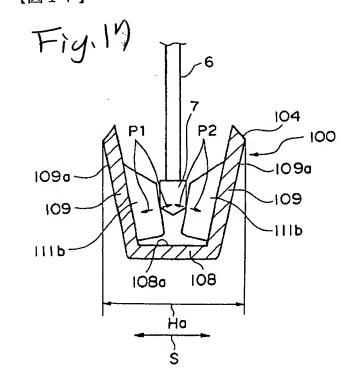
<del>頁:</del> 12/ 33

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図面 2002-364979 (14)

【図17】

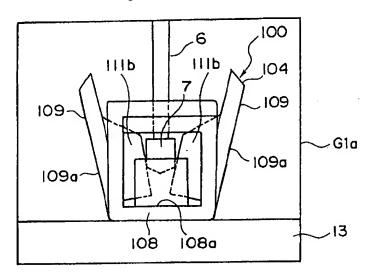


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【图18】

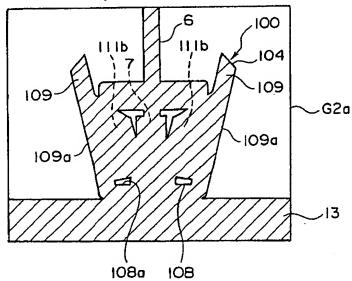
Fig.18

〕図面 <del>2002-364979 (14. 12</del>



【図19】

Fig. 19



12. 17

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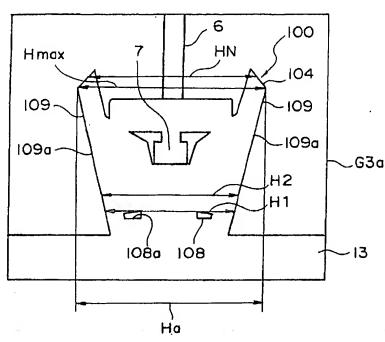
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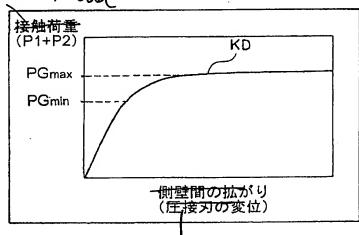
[特許] 2002-364979 (14. 12.

· <del>頁: 14/ 33</del>

18201 Fig. 20



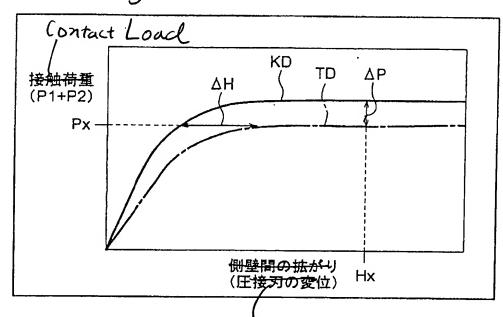
1日217 Fig. 21 Contact Load



Expunsion Amount Between Side Walls (Displacement of Press Contact Blades) Filing Date: March 30, 2004
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<del>[書類名] 図面。</del> <del>[特許] 2002-364979(14.</del> k 4. 12. 17

1221 Fig. 22



Expansion Amount Between Side Walls (Pisplacement of Press Contact Blades)

(安休日) 平地. 北. 护 不良品と判定 Fig.23 S12 S13 **S15** ~S16 \_S11 ~S14 Z S18 図面 102-364979 (14. 12. 17) ,S17 発光部の光軸と撮像部の光軸を合わせて、圧接前、光軸を合わせて、圧接前の一対の側壁の外面間の阻離を求める 基準データと測定した圧 接刃の変位とに基づいて、 接触荷重を推定する 倒壁の外面間の距離を求め、 圧接刃の変位を測定する 推定した 接触荷置が所定の範囲内に 入っているか 電線を圧接端子に圧接 し、これらを撮像する エッジを抽出する 良品と判定 2値化する スタート [图23]

andaxis of image pickup portion and acquire a distance between S11: coincide optical axis of light emitting portion with optical

S15: acquire distance between outer faces of side walls and S17: does predicted contact load fall within predetermined S12: bring wire into press contact with press contact terminal S16: predict contact load based on reference data outer faces of pair of side walls before press contacting measured displacement of press contact blades measure displacement of press contact blades and pickup image thereof S14: extract edge S13: binarizing S19: defect S18: good range?

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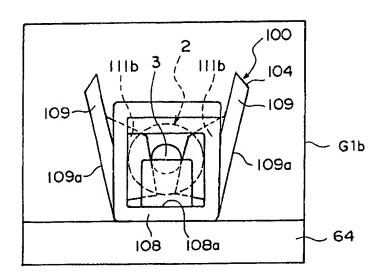
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17

書類名〕図面 特許] <del>2002-364979 (14.12.17</del>.

Fig.24



【図25] Fig.25 100 104 - 109 109 -G2b 109a 109a-

108

108a

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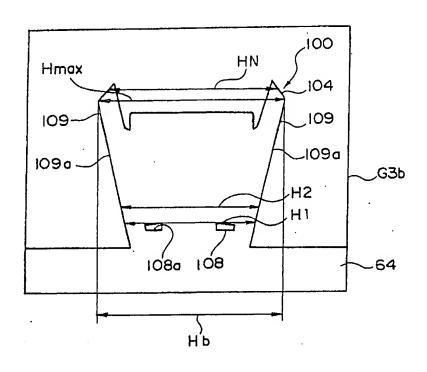
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<del>頁: 18/-33</del>-

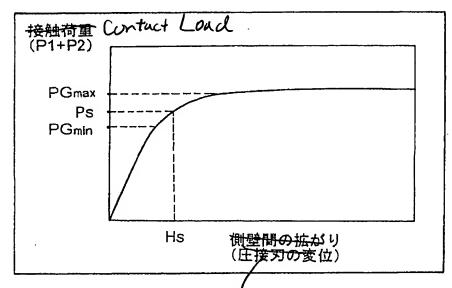
17

<del>[特許] 2002-364979 (14.12.17)</del> <del>(図267</del> Fig.26

頁名丁図面



18277 Fig. 27



Expansion Amount Between Side Walls
(Displacement of Press Contact Blades)

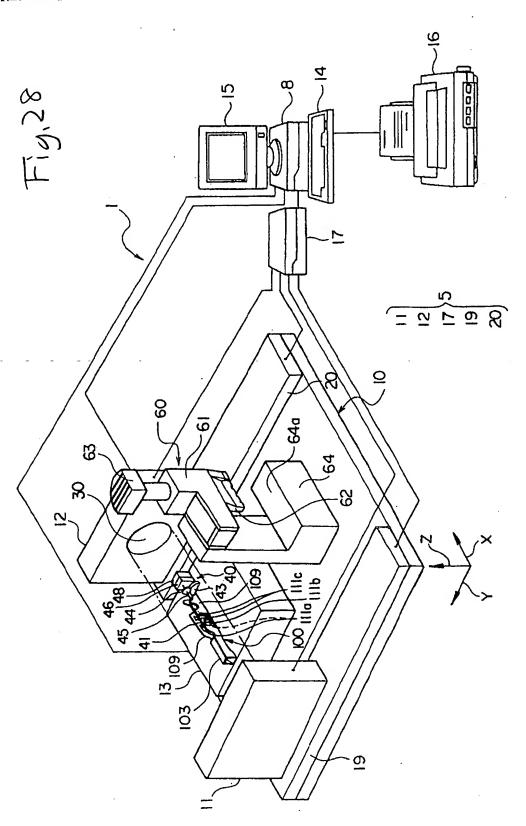
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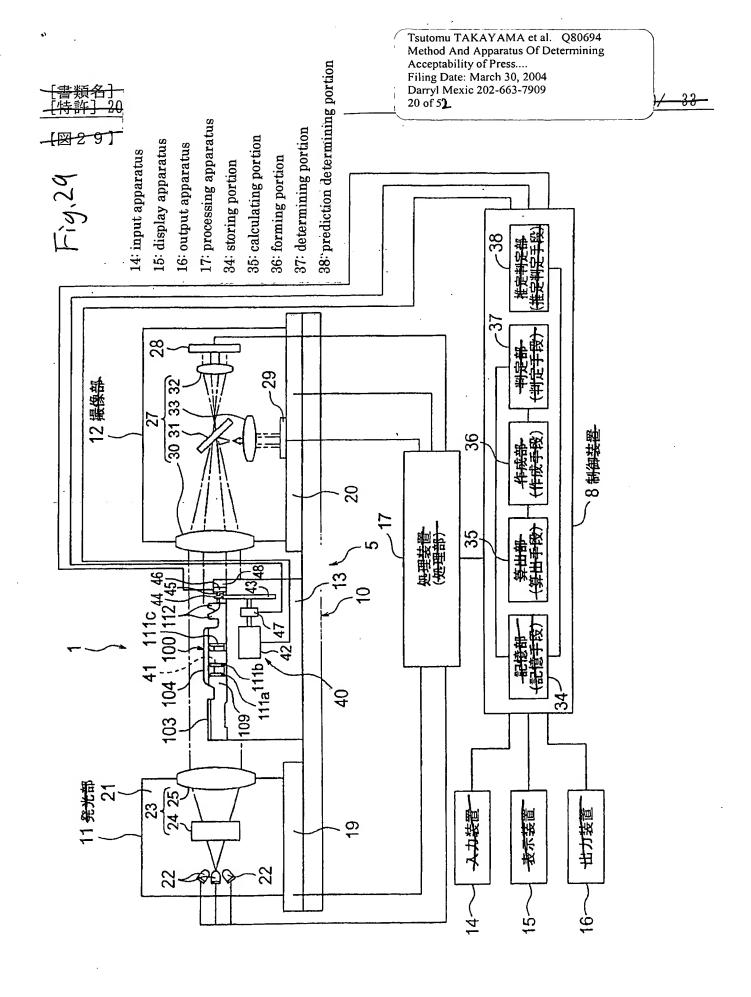
<del>19/</del> 33

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[图28]

類名〕図面 <del>許〕2002-364979 (14. 12.</del>



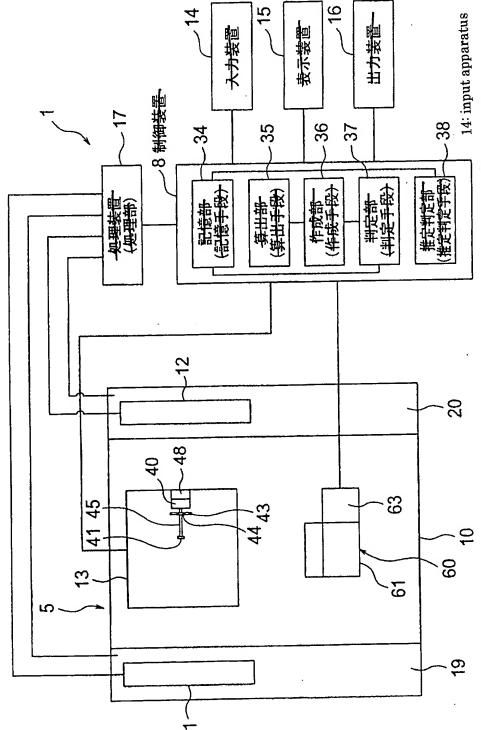


<del>[書類名] 図面</del> <del>[特許] 2002-364979 (14.-12.-17</del>)

【図30】

38: prediction determining portion 37: determining portion

17: processing apparatus 35: calculating portion 15: display apparatus 16: output apparatus 36: forming portion 34: storing portion



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start

S2a

回転子を回転させて 撮像する

S

発光部の光軸と強像部の 光軸を合わせて、圧接前 の一対の側壁の外面間の 距離を求める S

2億化する

\S4

エッジを抽出する

一般は出一年まれた

Fi4,31

スタート

364979 (14. 12. 17)

(書類名] 図面 特許} 2002 364

一年を対し

S1: coincide optical axis of light emitting portion with optical axis of image pickup portion and acquire a distance between outer faces of pair of side walls before press contacting S2a: rotate rotor and pickup image thereof S3: binarizing S4: extract edge

SS ~

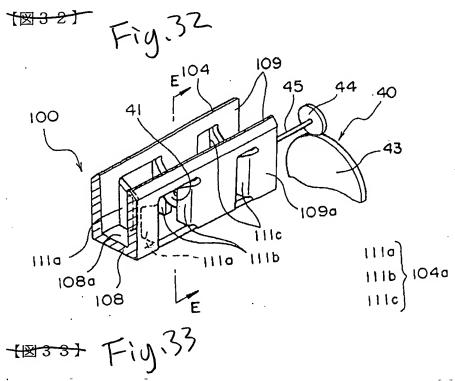
倒壁の外面間の距離を求め、 圧接刃の変位を測定すると ともに、接触荷置を算出する S6a

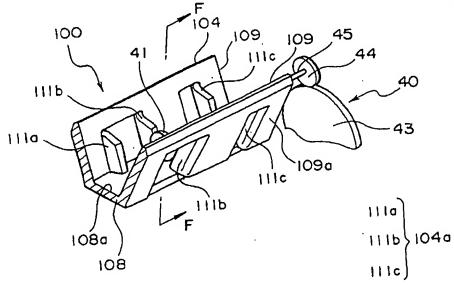
所定の 位置まで回転子が 回転したか

S5: acquire distance between outer faces of side walls, measure displacement of press contact blades and calculate contact load S6a: is rotor rotated by predetermined position?
S7: acquire (form) characteristic data by obtaining relationship between displacement of press contact blades and contact load data exceed predetermined value?

S10: defect

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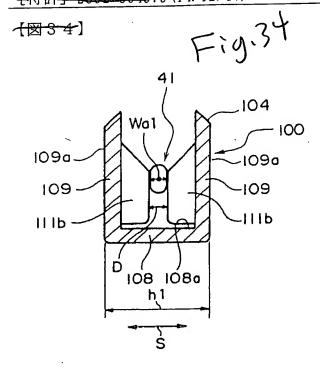


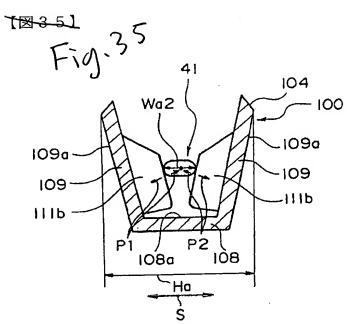


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[書類名] 図面 「特許] 2002-364979 (14. 12. 17)

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S12: bring wire into press contact with press contact terminal S11: coincide optical axis of light emitting portion with optical axis of image pickup portion and acquire a distance between outer faces of pair of side walls before press contacting and pickup image thereof

S13

2値化する

S12

電線を圧接端子に圧接 し、これらを撮像する

\_S11

発光部の光軸と磁像部の 光軸を合わせて、圧接前 の一対の側壁の外面間の 距離を求める

<u>\_</u> スタ・

[受付日] 平14.12.17

<del>[智類名] 図面-</del> <del>|特許] 2002-364979(14.12.17)-</del>

するの事

S16: predict contact load based on reference data and S17: does predicted contact load fall within predetermined S15: acquire distance between outer faces of side walls and measured displacement of press contact blades measure displacement of press contact blades S14: extract edge S13: binarizing range?

> .S19 不良品と判定 **S15** \_S16 S14 Z S18 ,S17 推定した 接触荷量が所定の範囲内に 入っているか 基準データと測定した圧 接刃の変位とに基づいて、 接触荷置を推定する 倒壁の外面間の距離を求め、 圧接刃の変位を測定する エッジを抽出する 良品と判定

S19: defect S18: good

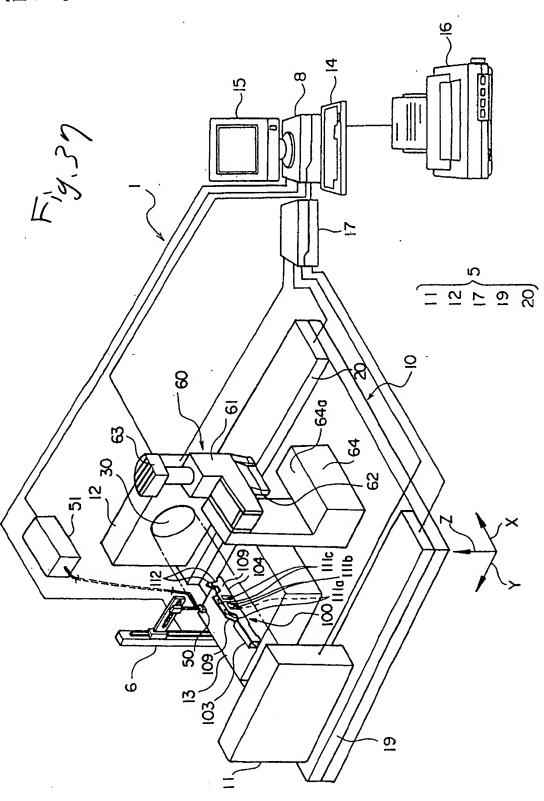
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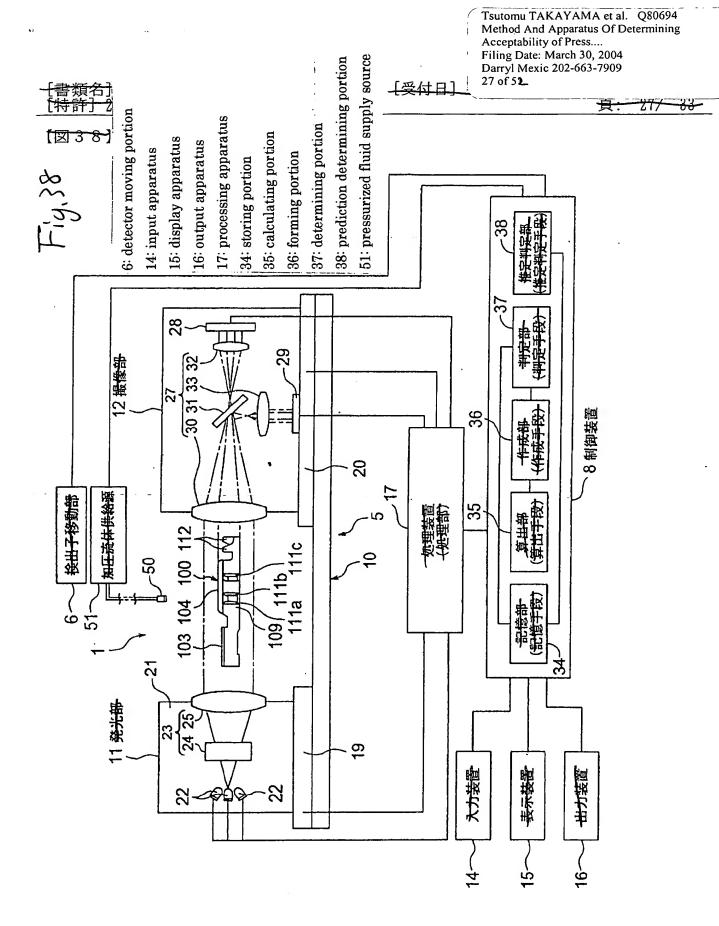
<del>]図面</del> 2002-364979 (14.

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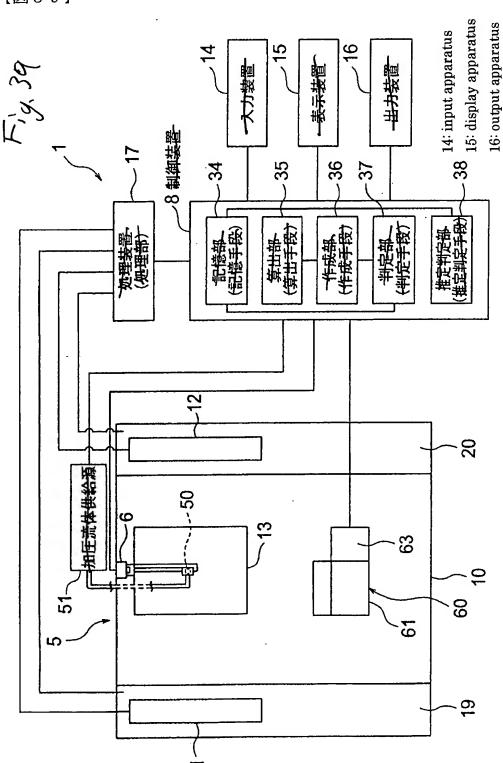
【図37】





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【図39】



38: prediction determining portion 51: pressurized fluid supply source

37: determining portion

17: processing apparatus

35: calculating portion

34: storing portion

36: forming portion

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start

axis of image pickup portion and acquire a distance between S1: coincide optical axis of light emitting portion with optical outer faces of pair of side walls before press contacting

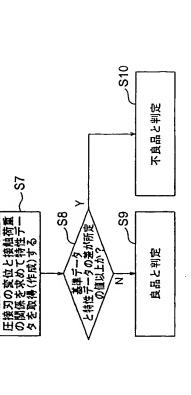
S2b: expand expander and pickup image thereof

S3: binarizing

S4: extract edge

S5: acquire distance between outer faces of side walls, measure S7: acquire (form) characteristic data by obtaining relationship displacement of press contact blades and calculate contact load between displacement of press contact blades and contact load S6b: is expander expanded in predetermined state?

S10: defect



(数件日) 单位 12.12

曹類名丁 図面 特許了 2002 - 264979 (14, 12, 17)

Fig.40

<u>,</u> スタ 1948

発光部の光軸と凝像部の 光軸を合わせて、圧接前 の一対の側壁の外面間の 距離を求める

SS/

膨張子を膨張させて 撮像する

~S2b

S3 (S4 エッジを抽出する 2値化する

倒壁の外面間の距離を求め、 圧接刃の変位を測定すると ともに、接触荷重を算出する

SS

状態まで膨張子が一般張したか

z

Seb.

S8: does difference between reference data and characteristic data exceed predetermined value?

S9: good

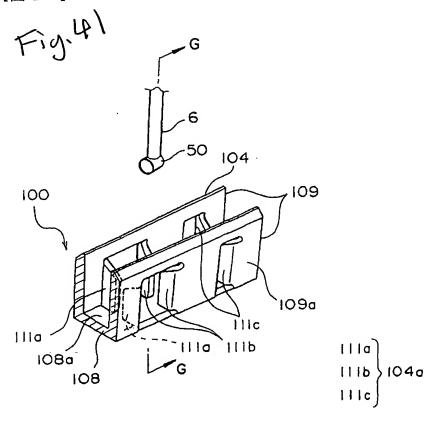
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[<del>雲領省] 図面</del> <del>[特許] 2002-364979 (14. 12.</del> 17) 頁: 30/ 33

4<del>. 12. 17</del>

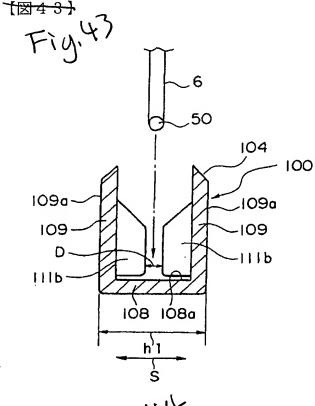
-{図41}



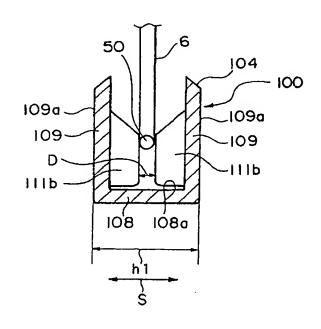
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17



1844) Fig. 44

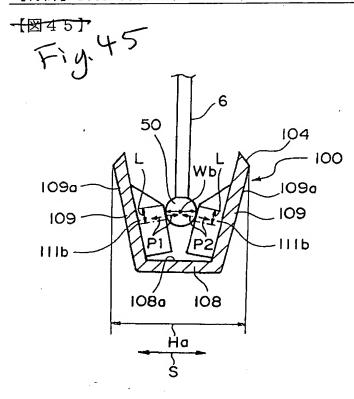


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<del>]図面</del> 2002-364979 (14. 12. 1-)

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S11: coincide optical axis of light emitting portion with optical axis of image pickup portion and acquire a distance between \$12: bring wire into press contact with press contact terminal outer faces of pair of side walls before press contacting

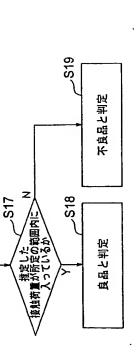
人政市田 事本 北下

[書類名] 図面 [特許] 2002 364979(14:12:17)

Fig.46

スタート

S17: does predicted contact load fall within predetermined data and S15: acquire distance between outer faces of side walls and S16: predict contact load based on reference measured displacement of press contact blades measure displacement of press contact blades and pickup image thereof S14: extract edge S13: binarizing



S19: defect S18: good range?

**S15** 

側壁の外面間の距離を求め、 圧接刃の変位を測定する

**S13** 

2値化する

**S12** 

電線を圧接端子に圧接 し、これらを撮像する

**S11** 

発光部の光軸と機像部の 光軸を合わせて、圧接前 の一対の側壁の外面間の 距離を求める

**S14** 

エッジを抽出する

~S16

基準データと測定した圧 接刃の変位とに基づいて、 接触荷重を推定する

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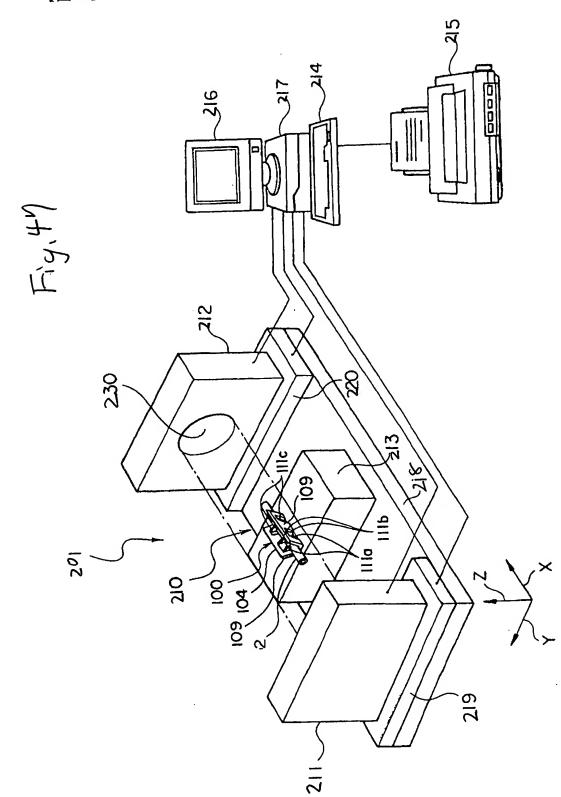
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<del>[書類名] 図面</del> <del>「特許] 2002-352875 (14\_12\_0</del>4)

【書類名】 図面

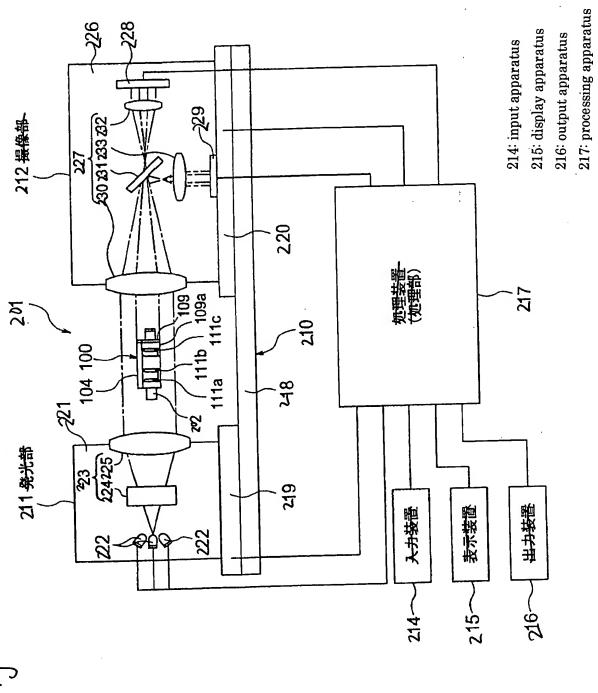
<del>【図1】</del>



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<del>[書類名] 図面</del> <del>[特許] 2002-352875 (14. 12.</del>

{図2]



からず

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SI: coincide optical axis of light emitting portion with optical axis of image pickup portion

S2: pickup image of press contact terminal with which wire is brought into press contact

S3: binarizing

S4: extract edge

S5: acquire center of wire

S6: acquire distance between outer faces of side walls

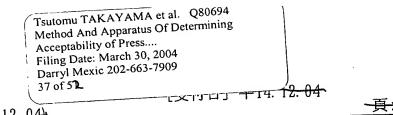
86

側壁の外面間の距離 を求める

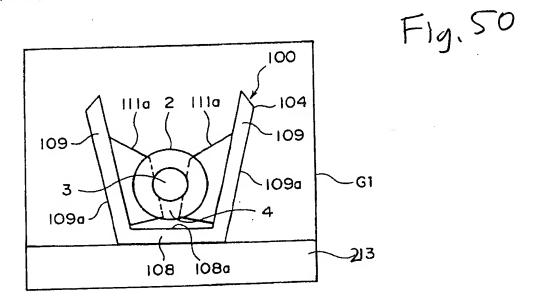
数了

自線の中心を求める

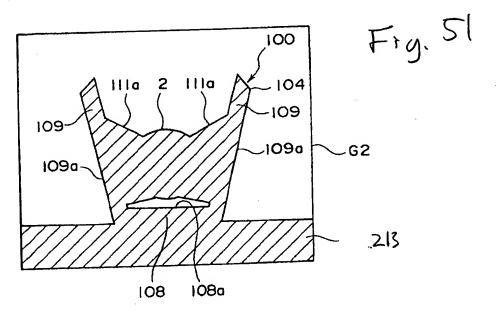
地 た 中



【図11】



<del>【図12</del>】



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<del>【図13】</del>

100 109 109a 109a 109a 63

Fig.52

(図14)

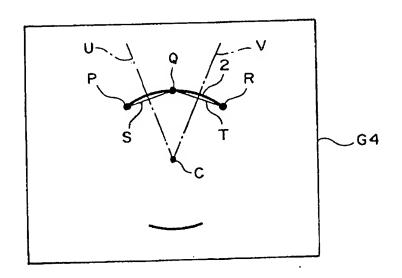
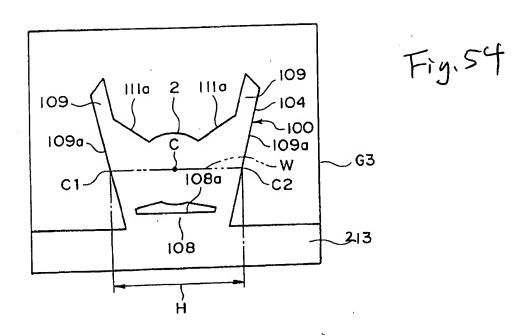


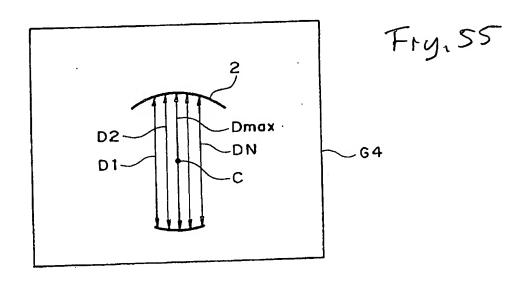
Fig.53

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## 【图15】



<del>【図16】</del>



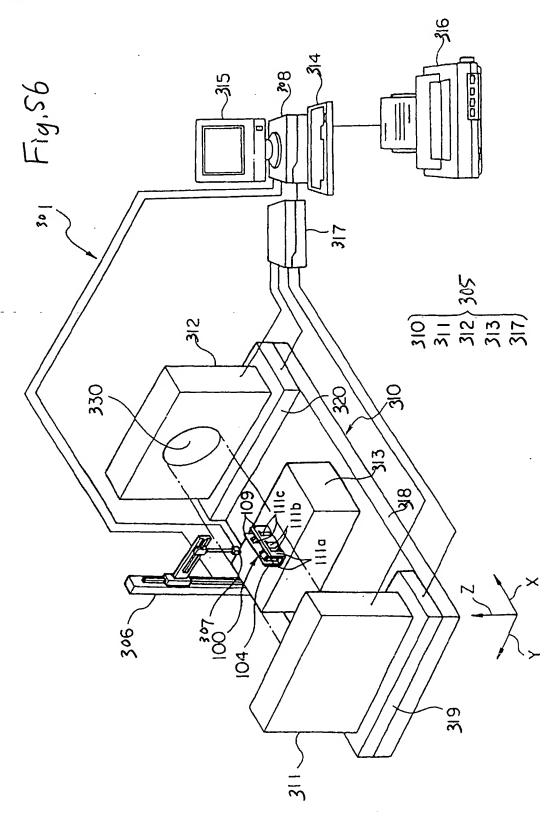
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[書<del>類名] 図面</del> <del>[特許] 2002-352873 (14. 12. 04</del>)

【書類名】

-図面

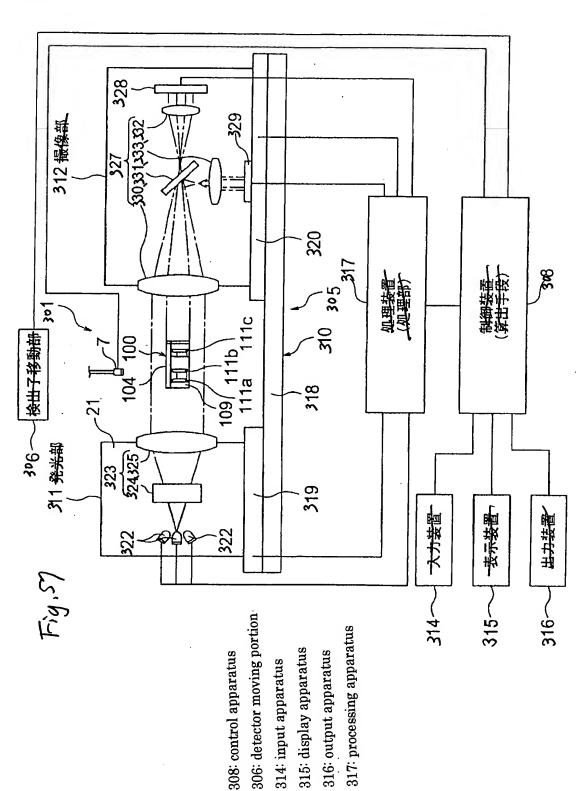
-{図-1-)



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[<del>書類名] 図面</del> [特許] <u>2002-352873 (14. 12. 04)</u>

{図2}



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S1: coincide optical axis of light emitting portion with optical axis of image pickup portion and acquire a distance between S2: bring piezoelectric element close to press contact terminal outer faces of pair of side walls before press contacting and pickup image thereof S4: extract edge S3: binarizing

S5: acquire distance between outer faces of side walls, measure S6: is piezoelectric element inserted at predetermined position? S7: acquire relationship between displacement of press contact displacement of press contact blades and calculate contact load blades and contact load

1年十二月 start [受件日] 平14 12 04 Figisa . S3 -S2 -S4 **S**2 (S1 -S7 z **S**6 発光部の光軸と撥像部の光軸を合わせて、圧接前の一対の倒壁の外面間の距離を決める 壁の外面間の距離を求め、 接刃の変位を測定すると もに、接触荷重を算出する 圧電素子を圧接端子に近づ け、これらを機像する 圧接刃の変位と接触荷重 の関係を求める [譽類名] 図面 [雄<u>許] 2002-352873 (14.</u> TZ. 04) エッジを抽出する 所定の位置 まで圧電素子を 挿入したか 2値化する スタート 禁了 事を 関田と

ο,

<del>4.3 図面</del> 200<del>2-352873 (14.</del> 12. U4)

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<del>【図1</del>5】 Fig.59

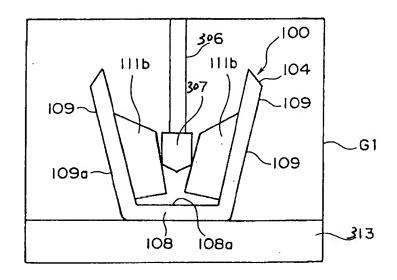
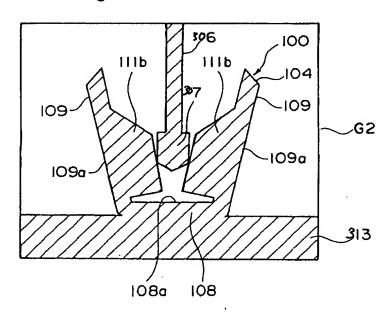


Fig.60 <del>【図16</del>】



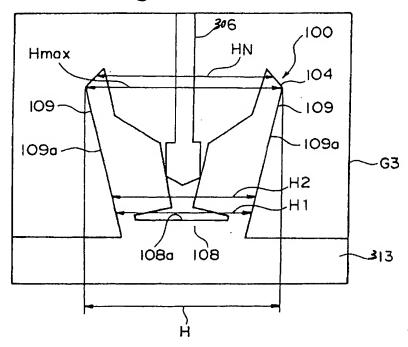
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[書<del>類名] 図面 --</del> [<del>特許] 2002-352873(14.12.</del>04)

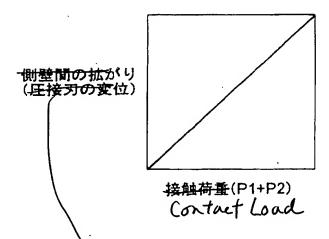
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[图17]

Fig. 61



181 Fig. 62



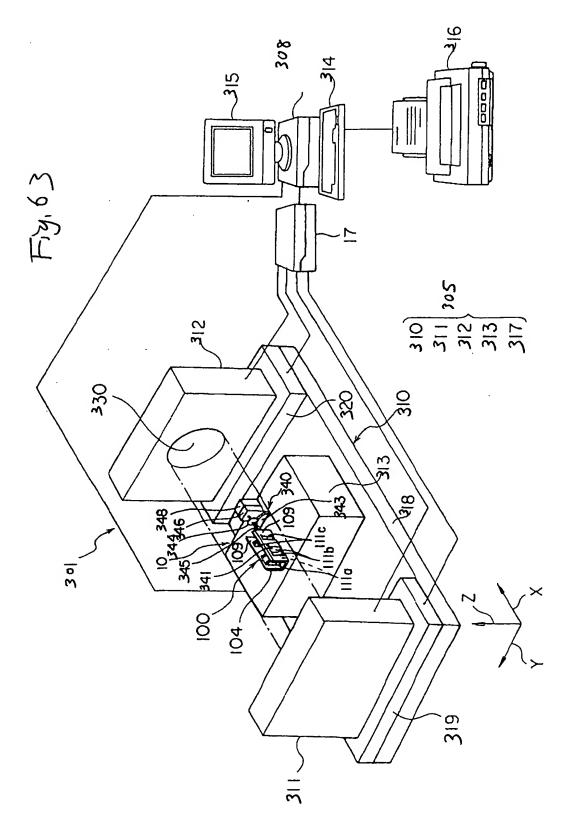
Expansion Amount Between Side Walls (Displacement of Press Contact Blades)

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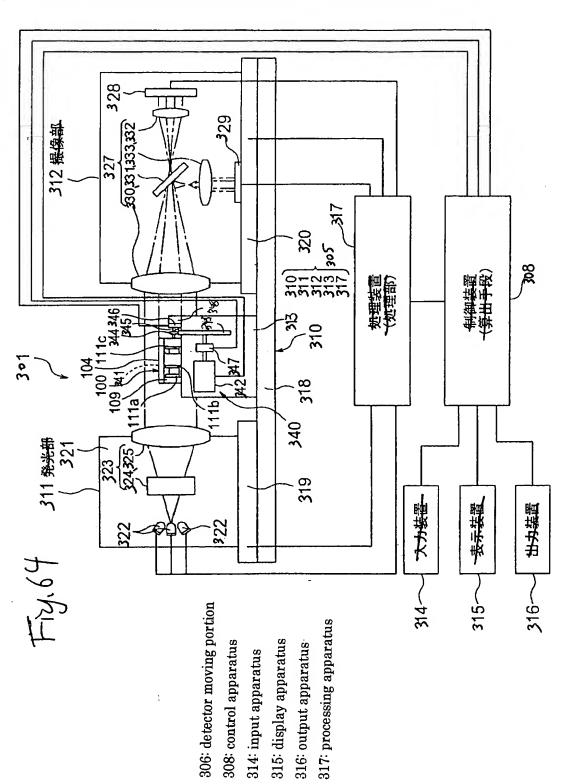
[書類名] 図面 <del>[特許] 2002-352873 (14. 12. 0</del>4)

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[図1-9]



## 【图20】



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352873 (14, 12, 94)

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axis of image pickup portion and acquire a distance between S1: coincide optical axis of light emitting portion with optical outer faces of pair of side walls before press contacting S2a: rotate rotor and pickup image thereof

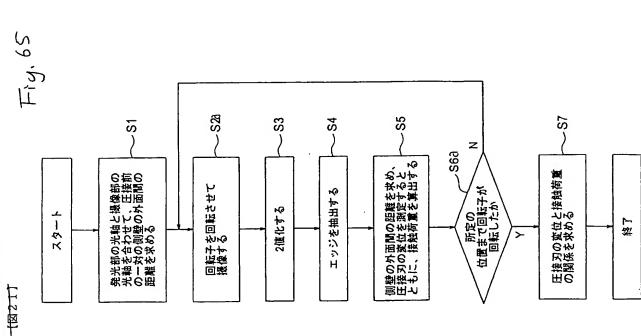
S3: binarizing

S4: extract edge

S5: acquire distance between outer faces of side walls, measure displacement of press contact blades and calculate contact load

S7: acquire relationship between displacement of press contact S6a: is rotor rotated by predetermined position? blades and contact load

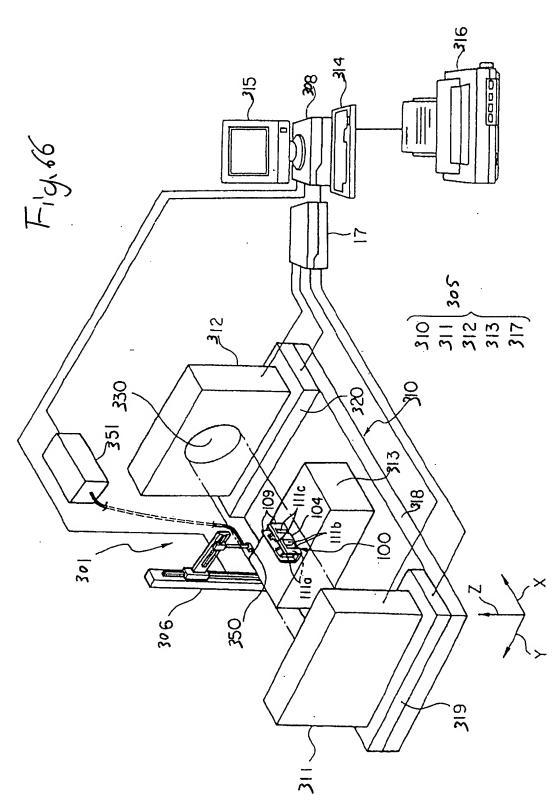
end



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【图26】

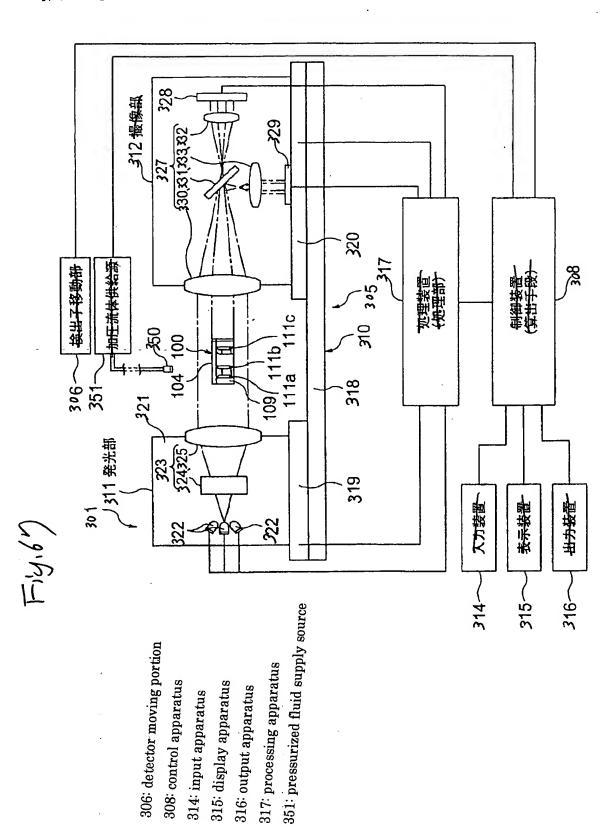


書類名] 図面 特許] 2002-352873 (14.

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[图27]



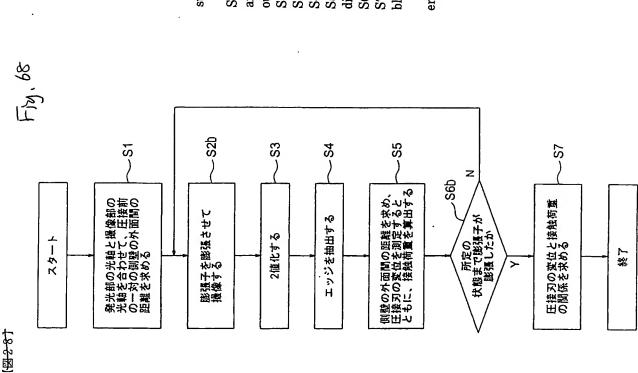
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(外布中) 中44 12 04

【巷類名】図面 【特許】2002-352873(14-12.04) S1: coincide optical axis of light emitting portion with optical axis of image pickup portion and acquire a distance between outer faces of pair of side walls before press contacting S2b: expand expander and pickup image thereof S3: binarizing S4: extract edge S5: acquire distance between outer faces of side walls, measure displacement of press contact blades and calculate contact load S6a: is expander expanded in predetermined state? S7: acquire relationship between displacement of press contact blades and contact load

end

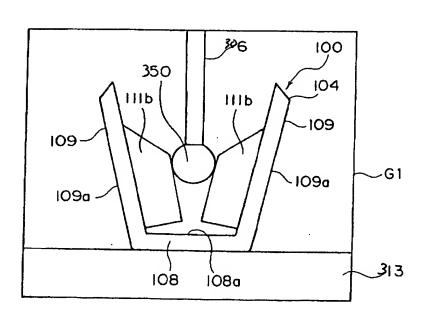


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4. 12. 04

Fig. 69



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<del>[書類名] 図</del>面 [特許] <del>2002-352873 (14. 12. 04)</del>

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